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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/707,244	12/01/2003	Shu-Hui Liu	NTCP0009USA	1243
27765	7590	03/03/2006	EXAMINER	
NORTH AMERICA INTELLECTUAL PROPERTY CORPORATION			LEVIN, NAUM B	
P.O. BOX 506			ART UNIT	
MERRIFIELD, VA 22116			PAPER NUMBER	
			2825	

DATE MAILED: 03/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

<b>Office Action Summary</b>	<b>Application No.</b> 10/707,244	<b>Applicant(s)</b> LIU ET AL.	
	<b>Examiner</b> Naum B. Levin	<b>Art Unit</b> 2825	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 December 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>05/13/04</u> . | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. This office action is in response to application 10/707,244 filed on 12/01/2003.

Claims 1-7 remain pending in the application.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-7 are rejected under 35 U.S.C. 102(e) as being unpatentable by Shi et al. (US Pub. No.: 20040139418).

3. As to claim 1 Shi discloses:

(1) An optical proximity correction (OPC) method for correcting a photomask layout, wherein the photomask layout comprises at least a photomask pattern, the OPC method comprising:

collecting an assist feature bias of a predetermined first assist feature which will be added to the photomask layout (in Table 1 shown in FIG. 3 the "Grow" column identifies the bias applied to the edges of the feature (residing within the given pitch range). A minus value in the grow column indicates that the space between the features shrinks (i.e., the feature grows)-[0044]) ([0037]; [0041]-[0044]);

performing a rule-based OPC process by taking account of the assist feature bias (the rules essentially form a look-up table to specify how each feature within a given pitch can be modified. As a result of the generation of this look-up table, the process of applying OPC to a given reticle design can be performed – [0065]) to compute a target bias of the photomask layout and output a corrected photomask layout according to the target bias (OPC applied to all features requiring correction ...each feature within the reticle design is analyzed so as to determine, for example, the pitch of the given feature within the design (Step 51), and then based on the pitch, the corresponding pitch is identified in the OPC table containing the rules (as shown in FIG. 4) and the feature design is modified in accordance with the biasing requirement and scatter bar set forth in the table (Fig.3) for the given pitch, if applicable (Steps 52 and 53) [0066]) ([0045];[0049];[0057]; [0064]- [0066]); and

adding the first assist feature to the corrected photomask layout ( process is continued until all features within the design have been analyzed (Steps 54 and 55) and modified if necessary. The modified features contained within the design represent the reticle to be printed- [0066]).

4. As to claims 2-7 Shi recites:

(2) The OPC method, wherein the first assist feature is a scattering bar ([0037]);

(3)The OPC method further comprising using the collected assist feature bias to build an assist feature correction model for the rule-based OPC process ([0049]);

(4)The OPC method further comprising transferring the collected assist feature bias to a specific format for the ruled-based OPC process ([0012]-[0013]; [0047]; [0049]; [0066]);

(5) The OPC, wherein the rule-based OPC process is used for correcting an edge portion of the photomask pattern ([0015]; [0064]-[0066]);

(6), (7) The OPC method, wherein the rule-based OPC process comprises collecting a width and a spacing and adding a second assist feature wherein the second assist feature is a serif pattern ([0036]; [0043]; [0045]; [0062]).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Naum B. Levin whose telephone number is 571-272-1898. The examiner can normally be reached on M-F (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Chiang can be reached on 571-272-7483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2825

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

N L

Alfredo  
THUAN DO  
Primary examiner.  
02/17/2006